



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/657,173	09/09/2003	Satoru Horita	P23806	1036

7055 7590 12/29/2006  
GREENBLUM & BERNSTEIN, P.L.C.  
1950 ROLAND CLARKE PLACE  
RESTON, VA 20191

EXAMINER
----------

PATEL, KANJIBHAI B

ART UNIT	PAPER NUMBER
----------	--------------

2624

SHORTENED STATUTORY PERIOD OF RESPONSE	NOTIFICATION DATE	DELIVERY MODE
3 MONTHS	12/29/2006	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Notice of this Office communication was sent electronically on the above-indicated "Notification Date" and has a shortened statutory period for reply of 3 MONTHS from 12/29/2006.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

gbpatent@gbpatent.com  
pto@gbpatent.com

**Office Action Summary**

Application No.

10/657,173

Applicant(s)

HORITA, SATORU

Examiner

Kanji Patel

Art Unit

2624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 6-10 is/are rejected.
- 7) ☒ Claim(s) 4 and 5 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>12/16/03</u> . | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

***Information Disclosure Statement***

2. Information Disclosure Statement submitted on 12/16/03 has been considered by the examiner.

***Drawings***

3. Drawings filed 9/9/03 have been approved by the examiner.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claims 1-3 and 7-10** are rejected under 35 U.S.C. 102(b) as being anticipated by Greggain (US 5,602,599).

**As to claims 1, 9 and 10**, Greggain discloses filtering device (Figure 1) which filters an original image (column 2, lines 6-8; input digital image stored in image frame store 1 provides an original image), comprising:

a reducing processor (resizing apparatus 3; column 2, lines 8-16) that reduces the number of pixels forming said original image (1) so as to generate a low-resolution image (image with reduced number of pixels results into a low resolution image);

a filtering processor (column 2, lines 17-33; by removing spatial frequency from the reduced image provides filtering) that filters pixel data of pixels forming said low-resolution image so as to transform said low-resolution image into a filtered image; and

an image restoring processor (resized apparatus 5 corresponds to an image restoring processor; column 2, lines 19-33) that restores the number of pixels forming said filtered image to the number of pixels forming said original image so as to generate a restored image.

**As to claim 2**, Greggain discloses a filtering device, wherein said filtering processor filters with a low-pass filter (Figure 1; column 2, line 6).

**As to claim 3**, Greggain discloses a filtering device, wherein said image restoring processor restores the number of pixels forming said filtered image to exactly the same number of pixels forming said original image (column 2, lines 18-27).

**As to claim 7**, Greggain discloses a filtering device, wherein pixel data forming said restored image is further filtered ((Figure 1).

**As to claim 8**, Greggain discloses a filtering device, wherein the number of pixels forming said low-resolution image can be selected from a stepwise series of predetermined numbers of pixels (input frame store 1 in Figure 1 stores all sizes of original input digital images inherently).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claim 6** is rejected under 35 U.S.C. 103(a) as being unpatentable over Greggain (US 5,602,599) as applied to claims 1-3 and 7-10 above and further in view of Nakase (US 6,738,169 B1).

**Regarding claim 6**, Greggain does not clearly disclose the use of interpolation to generate pixel data forming the restored image. However, Nakase discloses this feature at column 11, lines 43-45. Nakase teaches that in image size reproduce section 45 of Figure 8, the sent image is subjected to interpolation process by using appropriate low pass filter so as **to reproduce the size of the original image**. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Greggain by including the use of interpolation in pixel data forming the restored image as taught by Nakase. Doing so will increase the processing speed of the system without degrading any image quality as explained at column 12, lines 9-12.

***Allowable Subject Matter***

6. **Claims 4-5** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

**Other prior art cited**

7. The prior art made on record and not relied upon is considered pertinent to applicant's disclosure.


Ligtenberg et al. (US 6,137,914) disclose a method and format for storing and selectively retrieving image data.

**Contact Information**

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kanji Patel whose telephone number is (571) 272-7454. The examiner can normally be reached on Monday to Thursday from 8 a.m. to 6:30 p.m. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bella, Matthew can be reached on (571) 272-7778. The fax phone number for the organization where this application or proceeding is assigned is (571)-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kanji Patel  
Art Unit 2624  
12/20/06

  
**KANJIBHAI PATEL**  
**PRIMARY EXAMINER**